# EUROPEAN FIRST YEAR EXPERIENCE CONFERENCE 2017

Learning Gained through Student-Staff Partnerships

Wednesday 28th June – Friday 30th June 2017

## ABSTRACT SUBMISSION FORM

Proposals should be submitted to efye@bcu.ac.uk by the 20th February 2017.

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| **Name(s) of speaker(s)** | Tinne De Laet[1], Sven Charleer[2], Katrien Verbert[2], Greet Langie[3], Carolien Van Soom[4] |
| **School / Department / Institution** | [1]KU Leuven, Faculty of Engineering Science, Tutorial Services<br>[2]KU Leuven, Faculty of Engineering Science, Computer Science<br>[3]KU Leuven, Faculty of Engineering Technology<br>[4]KU Leuven, Faculty of Science, Tutorial Services |
| **Email Address** | Tinne.DeLaet@kuleuven.be |

**Biographical details for each speaker (50 words maximum each speaker)**

Tinne DE LAET, PhD, is tenure track professor and head of the Tutorial Services at the Faculty of Engineering Science at KU Leuven. She is the head of the Leuven Engineering and Science Education Center (LESEC) and the KU Leuven promotor of the Erasmus+ projects ABLE and STELA.

Sven CHARLEER, is a PhD candidate at the Human-Computer Interaction group, Department of Computer Science at KU Leuven, where he focusses on visualizing learning analytics data to create effective dashboards for teachers, guidance counsellors and students.

Katrien VERBERT, PhD, is an Assistant Professor at the Human-Computer Interaction research group of the Computer Science Department of KU Leuven. Her research interests include learning analytics, visualisation techniques, recommender systems for learning and digital humanities.

Carolien VAN SOOM, PhD, is associate professor and head of the Tutorial Services at the Faculty of Science at KU Leuven. Her research focuses on academic self-concept, motivation, and achievement of freshmen bachelors in STEM programs. She is a member of the steering committee of the Leuven Engineering and Science Education Center (LESEC).

Greet LANGIE, PhD, is vice-dean of Education at the Faculty of Engineering Technology at KU Leuven. Her research focuses on the transition from secondary to university STEM-education. She is a member of the steering committee of the Leuven Engineering and Science Education Center (LESEC) and the project promotor of the European readySTEMgo project.

**Statement of how the session links to the conference theme(s) (100 words maximum)**

The session will demonstrate that learning analytics can be powerful when deployed in a "staff-student partnership" by presenting a dashboard that supports the live interaction between student advisor and student. The dashboard is deployed as a supportive tool for the conversation between the student and study advisor. While the dashboard provides useful "facts", the student and study advisor supplement the facts with personal information, individual circumstances, etc. The session will present the dashboard and the evaluation results, of both student advisors and students, of a deployment at the KU Leuven in 11 different programs.

**Session/poster title**

**Learning analytics dashboard to support the live interaction between student advisor and student.**

**Session type – Paper, Poster or Show and Tell (please see advice on formats on page 1)**

paper

**Summary (50-word summary for programme)**

Learning analytics (the use of data about learners, for purposes of understanding and optimizing learning and the environments in which it occurs), is hot. Is it however useful for the first year experience? We will present a dashboard that supports the live interaction between a study advisor and a first-year student.

**Abstract (500 words maximum, not including references if used)**

Each year around 2500 new students enroll in the bachelor programs of the Faculties of Science, Engineering Science, Engineering Technology, and Bio-engineering at the KU Leuven. The Flemish (Belgium) higher education system presents the universities with a particular challenge as they have to accept all students with a secondary education diploma (no selection is allowed, except for the Bachelors of Medicine and Dentistry). As a result, not all students have the right qualifications for the programs and the overall drop-out rate is around 40%.

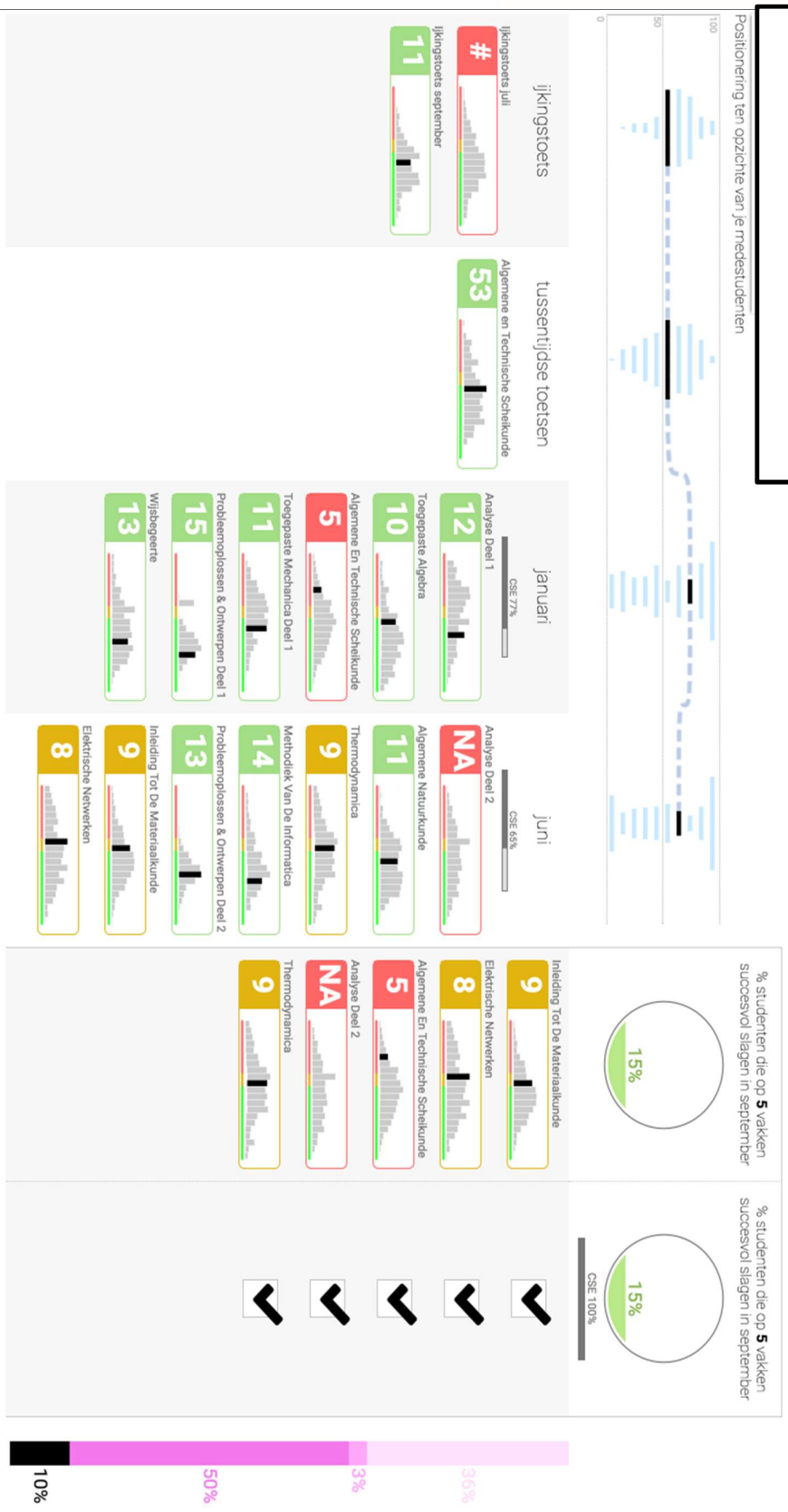
Both KU Leuven researchers, student support services, tutorial services, teachers, etc. heavily invest in advising students before and throughout their first-year (Vanderoost et al. 2014; Vanderoost et al. 2015; Callens et al. 2016). Due to the particular Flemish context, the focus is not only on retention but also on in-time reorientation to a bachelor's program that better fits the student's interests, skills, and qualifications.

The ABLE Erasmus+ project ("ABLE Project" 2017), Achieving Benefits from LEarning analytics, explores how learning analytics can be used to support both staff and students in higher education. The partners, Nottingham Trent University (UK), KU Leuven (Belgium) and Universiteit Leiden (Netherlands) focus on the first-year experience. Learning analytics (LA) is the measurement, collection, analysis, and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs (Ferguson 2012). The objectives of learning analytics are manifold, from identification of at-risk students over predictive analytics to the personalization of learning content and contexts, to support teachers, students, study advisors, etc. (Verbert et al. 2012) . Our work focuses on how to use learning analytics to support the live interaction between study advisors and first-year students. To this end, a dashboard was designed and developed that provides an at-a-glance overview of the "facts":

- the obtained grades for the different test moments,
- the positioning of the individual grades with respect to the peers (histogram),
- the overall position with respect to the peers, and
- a "predictive" part that shows the number of years students with similar results needed to obtain the bachelor degree.

The picture below provides a view of the dashboard. During the academic year 2016-2017 the Faculty of Science, Engineering Science, Engineering Technology, and Bio-engineering deployed this dashboard during the conversations with students after receiving their results for the first examination period (January 2017). The study advisor and the student in need for support are challenged to supplement these facts with personal information and individual circumstances, as to obtain a complete picture of the student's study experience.

In the session we will present the feedback of student advisors obtained during the dashboard development, and the evaluation results of both students and study advisors after the dashboard deployment. We will carefully formulate the pros and cons of the current approach and provide hints for further development.




"ABLE Project." 2017. Accessed January 2. http://www.ableproject.eu/.

Callens, Riet (KU Leuven), Tinne (KU Leuven) De Laet, Koen (KU Leuven) Paes, Jef (KU Leuven) Vanderoost, An (KU Leuven) Vanfroyenhoven, and Jasper (KU Leuven) Witters. 2016. "Feedback Path for First Year Students Engineering Science: A Data-Based Approach." In *EUROPEAN FIRST YEAR EXPERIENCE CONFERENCE 2016*, 1–

4.

Ferguson, R. 2012. “Learning Analytics: Drivers, Developments and Challenges.” *International Journal of Technology Enhanced Learning* 4 (5/6): 304–317. doi:10.1504/IJTEL.2012.051816.

Vanderoost, Jef (KU Leuven), Riet (KU Leuven) Callens, Joos (KU Leuven) Vandewalle, and Tinne (KU Leuven) De Laet. 2014. “Engineering Positioning Test in Flanders : A Powerful Predictor for Study Success ? Conference Topic : The Attractiveness of Engineering ; Education Al Research Methods INTRODUCTION.” In *Proceedings of the 42nd Annual SEFI Conference*.

Vanderoost, Jef (KU Leuven), Carolien (KU Leuven) Vansoom, Greet (KU Leuven) Langie, Johan (KU Leuven) Van den Bossche, Riet (KU Leuven) Callens, Joos (KU Leuven) Vandewalle, and Tinne (KU Leuven) De Laet. 2015. “Engineering and Science Positioning Tests in Flanders : Powerful Predictors for Study Success ?” In *Proceedings of the 43nd Annual SEFI Conference*.

Verbert, Katrien, Nikos Manouselis, Hendrik Drachsler, and Erik Duval. 2012. “Dataset-Driven Research to Support Learning and Knowledge Analytics.” *Educational Technology & Society* 15: 133–48.

| **Main message of the session: "After this session the participant will know/have experienced/have gained…"** |
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| • The pros and cons of a learning analytics dashboard deployed at KU Leuven to support the live interaction between student advisor and first-year student.<br>• The future challenges of the use of learning analytics to support the first-year experience. |
| **Keywords: every presentation will be categorized according to some keywords. Please check the box of the keywords applicable to your session. The keywords are based on interesting EFYE-topics for this conference.** |

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|---|---|
| ☐ Active learning | ☐ Physical spaces |
| ☐ Belonging (socially, academic) | ☐ Research on FYE |
| ☒ Big Data | ☐ Residential students |
| ☐ Commuter (or local) students | ☐ Retention |
| ☐ Counselling | ☐ Service learning/volunteering |
| ☐ Curriculum | ☐ Social cohesion |
| ☐ Health and well-being | ☐ Student diversity |
| ☐ Induction (Orientation) | ☐ Student finance |
| ☐ Institutional development | ☐ Student perspective |
| ☐ International students | ☐ Students as partners |
| ☐ Language (academic) | ☐ Study Skills |
| ☐ Learning communities | ☐ Social Media |
| ☐ Library | ☒ Technology |
| ☐ Parents | ☒ Transition from school/college to HE |
| ☐ Pastoral Care | ☐ Transition to second year |
| ☐ Peer mentoring | ☐ Work and study |

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